Why technology is important to special population students & technology tools

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- Director of the KCSMP (Kent City Summer Migrant Program).
  - Kent City - Northern Kent County (15 miles north of Grand Rapids)
- 14 years of Migrant Education
- 16 years of teaching experience (Computer Science)

Video

Digital Divide - Some of the stats don't apply but we'll look at our stats shortly.

PBS Newshour-
http://www.youtube.com/watch?v=X537MiN6COI
http://www.pbs.org/newshour/rundown/2010/03/fcc-unveils-sweeping-broadband-plan.html

Concern

Visiting a camp and knowing the lack of technology in the home.

Despite the growing presence of technology in classrooms, **84 percent of middle and secondary teachers are concerned that the proliferation of mobile devices is contributing to the emergence of a new digital divide** that undermines the progress and potential of America's poorest schools.

The survey, from the Pew Research Center's Internet & American Life Project, and conducted in collaboration with the College Board and the National Writing Project (NWP)

Digital Divide

A **digital divide** is an economic inequality between groups, broadly construed, in terms of access to, use of, or knowledge of information and communication technologies (1).

Digital Divide

- **Access** (Broadband and connected devices)

- **Skills** (Necessary skills to create, share, communicate, etc. in digital form)

Our Focus

While working towards broadband access in all households is a worthy and worthwhile goal it also beyond our immediate control and will not be our focus today. (Not digging ditches)

Instead we'll be focusing on how education can help **bridge** the digital divide by providing **ALL** students with the access, knowledge, and 21st century skills needed in today's information age. Our programs can give students real and engaging digital experiences (connecting, creating, and sharing) where they are not getting them anywhere else.

"Have Nots"

The lowest group
- Hispanic
- 65+
- $30,000 or less
- No HS Diploma

PEW Research

Demographics of internet users in 2000 and 2011

% of each group of American adults who use the internet. For instance, 76% of women use the internet as of August 2011.

	% of adults who use the internet	
	June 2000	August 2011
All adults (age 18+)	47%	78%
Men	50	80
Women	45	76
Race/ethnicity		
White, Non-Hispanic	49	80
Black, Non-Hispanic	35	71
Hispanic^	40	68
Age		
18-29	61	94
30-49	57	87
50-64	41	74
65+	12	41
Household income		
Less than $30,000/yr	28	62
$30,000-$49,999	50	83
$50,000-$74,999	67	90
$75,000+	79	97
Educational attainment		
No high school diploma	16	43
High school grad	33	71
Some College	62	88
College +	76	94

^ **Note:** In the 2000 survey, this included only English-speaking Hispanics. In the 2011 survey, this included both English- and Spanish-speaking Hispanics.

All differences are statistically significant except for those between blacks and Hispanics in 2011.

Sources: The Pew Research Center's Internet & American Life Project's May 2000 Tracking Survey conducted May 19-June 21, 2000. N=2,117adults age 18 and older. Interviews were conducted in English. // The Pew Research Center's Internet & American Life Project's August Tracking Survey conducted July 25-August 26, 2011. N=2,260 adults age 18 and older.

"Have Nots"

Largest Group - Senior citizens, those who prefer to take our interviews in **Spanish** rather than English, adults with **less than a high school education**, and those living in households earning **less than $30,000** per year are the least likely adults to have internet access. (http://pewinternet.org/Reports/2012/Digital-differences/Overview.aspx)

Spanish speaking, no high school diploma, and making less than $30,000 a year.

Does that describe our students households?

Education Gap grows between rich and poor students research shows.

Article in the NY Times, "Education was historically considered a great equalizer in American society, capable of lifting less advantaged children and improving their chances for success as adults. But a body of recently published scholarship suggests that the achievement gap between rich and poor children is widening, a development that threatens to dilute education's leveling effects."

(http://www.nytimes.com/2012/02/10/education/education-gap-grows-between-rich-and-poor-studies-show.html?pagewanted=all&_r=0)

Professor Reardon- Study

Professor Reardon said, in the study he led, researchers analyzed 12 sets of standardized test scores starting in 1960 and ending in 2007. He compared children from families in the 90th percentile of income — the equivalent of around $160,000 in 2008, when the study was conducted — and children from the 10th percentile, $17,500 in 2008. By the end of that period, the achievement gap by income had grown by 40 percent.

Achievement Gap

"In another study, by researchers from the University of Michigan, the imbalance between rich and poor children in college completion — the single most important predictor of success in the workforce — has grown by about 50 percent since the late 1980s."

Why…

Why do families with more money have children that perform better? Research suggests the Opportunities they receive.

A study by Sabino Kornrich, a researcher at the Center for Advanced Studies at the Juan March Institute in Madrid, and Frank F. Furstenberg, scheduled to appear in the journal Demography this year, found that in 1972, Americans at the upper end of the income spectrum were spending five times as much per child as low-income families. By 2007 that gap had grown to nine to one; spending by upper-income families more than doubled, while spending by low-income families grew by 20 percent.

So...

We know that a large achievement gap exists and is growing between Rich and Poor students. Research suggests this is based on the spending and **opportunities** given to wealthy students (9 to 1 spending gap).

Are some of these wealthy **opportunities** digital? YES!

Sunne Wright (CEO CETF)

She praised Padilla and Bradford for their legislation. "The most vulnerable Californians are further disadvantaged if they do not have broadband access or do not have the requisite devices and skills to get connected," McPeak said. "**The digital divide is just another manifestation of the economic divide and opportunity divide**."

http://www.caeconomy.org/reporting/entry/california-bills-tackle-digital-divide-head-on

Comparing Households

Broadband internet access and devices

- Look it up (movies)
- Connecting (Facebook)
- Learning (Agg.reader, podcasts)
- Sharing (Youtube, Blogs)

Desktops, Laptops, Tablets, Smartphones, e-readers

No internet or dial up (same thing)

Nothing

What do we risk by doing nothing?

Hinder Learning -

- Virtually all (99%) AP and NWP teachers in this study agree with the notion that "the internet enables students to access a wider range of resources than would otherwise be available," and 65% agree that "the internet makes today's students more self-sufficient researchers." (http://pewinternet.org/Reports/2012/Student-Research.aspx)

- 96% agree digital technologies "allow students to share their work with a wider and more varied audience"

- 79% agree that these tools "encourage greater collaboration among students"

- According to teachers, students' exposure to a broader audience for their work and more feedback from peers encourages greater student investment in what they write and in the writing process as a whole.

- I have witnessed first hand how a new generation of mobile education apps can accelerate learning with my own children. Love of learning, engagement and core knowledge are all gaining at an unbelievable pace.

"My kids are left out"

Quote from a parent in a PBS interview -I find the issue of broadband access important in so many ways, the **inequality of accessing basic information**," she said via email. "Those who have high speed access can't imagine living without it. For me when I hear 'go online to view the rest of this segment' or 'access our podcast,' I know that those things are out of reach for me. **I feel left out. My kids are left out.**" (http://www.pbs.org/mediashift/2007/01/your-guide-to-the-digital-divide017/)

Jobs/Skills

"Twenty years ago, someone without computer skills could still expect to find a decent job which, though not providing a huge income, could still support a family. But now, jobs that used to be considered basic blue collar jobs require technological know-how." (mechanic)

(http://www.vyopta.com/blog/general- topics/affordable-technology- bridging-gap-between-rich-and-poor-

schools#.Ui9Cq9Ksh8E)

The U.S. Department of Labor estimated that between 2010 and 2020, there will be more than 1.4 million computing-related job openings nationally, and at current graduation rates, only about 30 percent of those jobs can be filled.

Technology in the Classroom

Affordable technology in the classroom has the ability to reduce the gap between high-income and low-income schools. If everyone has equal access to educational resources, then there are fewer hurdles to success. Whereas students in at-risk schools might have dealt with roadblocks like outdated books, old or non-working computers, or parents that were not as available, technology such as the iPad has the ability to act as a remedy. As a solution to multiple needs, it makes the iPad well worth the investment.

Easy-to-use technology is not a blanket solution, but with the right software applications and information sources that align with an educator's teaching plan, the gap between high and low-income schools will be eliminated, while improving overall student performance and outcomes.

http://www.vyopta.com/blog/general-topics/affordable-technology-bridging-gap-between-rich-and-poor-schools#.Ui9Cq9Ksh8E

Elbow Partner

Have you ever experienced being left out of the digital age? What did that feel like?

Have you seen evidence of the Digital Divide? Explain.

KCSMP

- Service five school districts (Kent City, Sparta, Kenowa Hills, Coopersville, Ravena).

- 290 students in the summer of 2014

- Newer middle school building

What are we doing to meet the need?

- Providing classroom technology which enhances learning
- Computer classes
- Open lab access
- Ipads - apps
- OSY- Ipod Program

Classroom

Technology
- Projector
- Smartboard
- Computer
- Document Camera
- Broadband Internet

Computer Class and Teacher

- 30 station lab
- Certified Teacher (part time)
  - Each class has three computer times each week.
  - Teacher extends curriculum activities using internet resources (tied right in with the new curriculum).
  - Works on technology skills such as researching, collaboration, communication, and presentations.
- Open lab sign up

IPads

- Purchased 40 Ipads (4th generation)

- Focus - 1st on intervention
  - Intervention Team - 2 full time teachers
  - Math and Reading
  - Push in and pull out
  - Grouping based on pre-testing
- Focus - 2nd on classrooms
  - Kindergarten through MS/HS
  - Whole class or centers

Barb Berry - Interventionist

"The benefits of implementing iPad technology in the Reading Intervention program of Kent City Community Schools Summer Migrant Education Program were evident in four areas which were engagement, individualization, skill practice repetition, and expansion of classroom lessons. This was the first year with iPads in the summer program, but the effect of engagement was evident immediately. Students became animated at even the thought of getting to use the tablets."

"As we search for methods to close the gap between migrant second-language students and their less-mobile peers, iPads offer a valuable tool for learning."

Early Results

- Intervention uses nearly everyday. Reading, sight words, level books, sentence structure
- Number recognition, adding, multiplying, counting money, etc.

- **Learning is individualized, and self paced**

Early Results

- Used whole class.
- Kindergarten through 2nd grade this year. Expanding to all grades next summer.

- Keeps learning fresh and students engaged (because there are so many apps to choose from).

- **Kids love using them. Don't want to stop. Always want to be on them.**

I Pad Equipment

40 Ipads (4th generation)
   $480 if bought in groups of 10 from apple direct
40 Casecrown cases - highly recommended cases
1 Apple Macbook - For administering apps
1 Sync and Charge Cart
Applecare - Protection plan

The Apps - Videos

Endless ABC (alphabet)
Reading Raven
Bob Books
Starfall (app and website)

Splash Math
Counting Caterpillar
Freefall Money
Virtual Human Body

Setup One

Slimmed down set-up
    10 Ipads or less
    Charge cart (No sync)
    No macbook

Pros
    Cost
    Ease of Use

Cons
    Slower
    More expensive apps

Details

- ITunes account (not personal… SMP related)
- You can have the same account logged into multiple Ipads (Apple says 6 is the limit, not sure if it's restricted though).
- Set up Ipads individually (you may be able to set up one, save to cloud and then download for each Ipad).
- Buy your apps and download to each Ipad

Setup Two

Full setup
    11 Ipads or more
    Charge/Sync Cart
    Macbook

Apple Configurator

Pros
  More Powerful
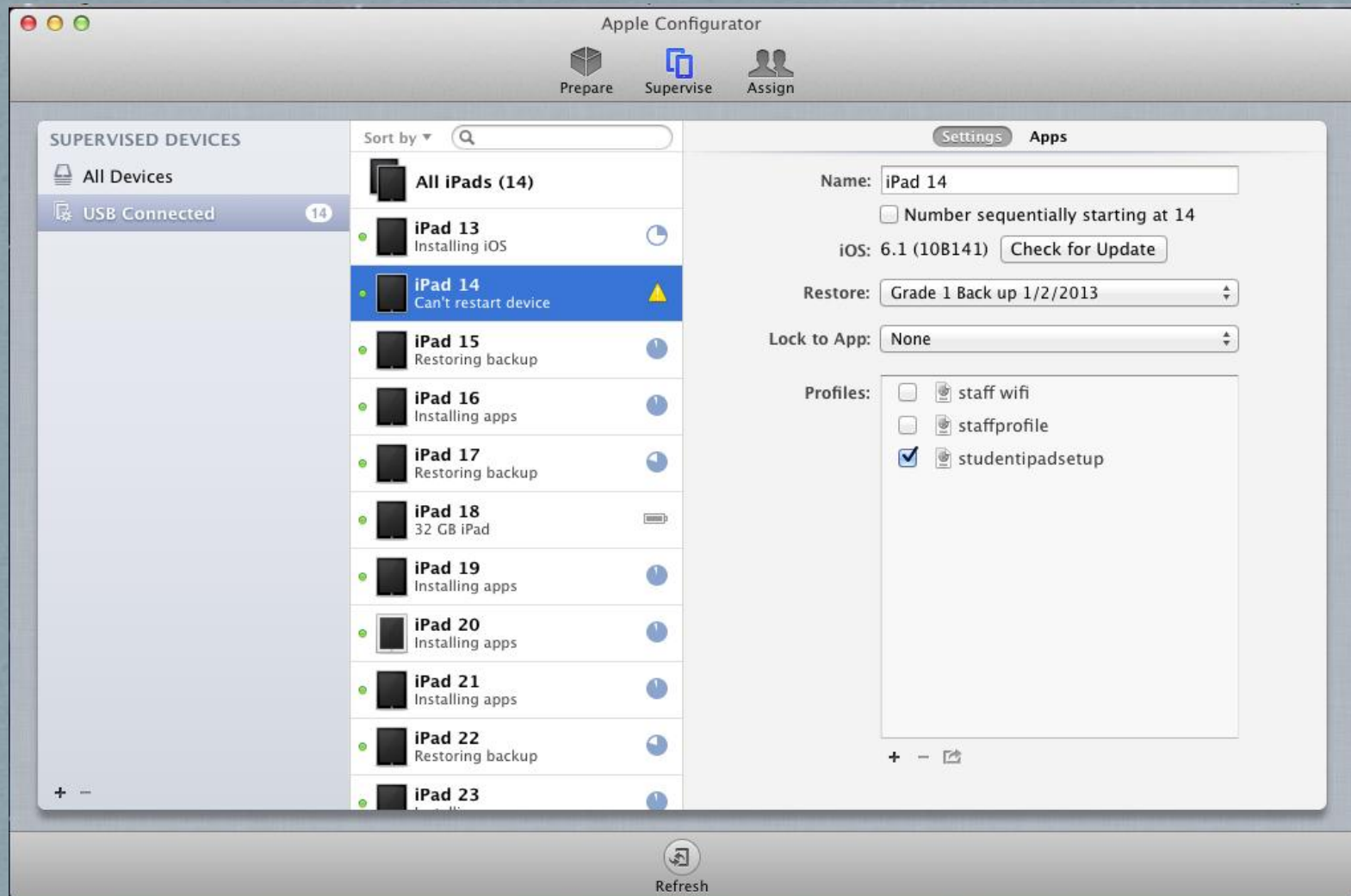 More efficient
  Cheaper Apps (½ off)

Cons
  More Expensive
  More Complicated

Details

- Sign up for VPP (Volume Purchasing Program) though Apple. This will be one Apple ID.
- You need a 2nd Apple ID for your Ipad Logins
- Download Apple Configurator (this is why you need a Mac Mini or Macbook).
- Use Apple Configurator to
  - Set up an Ipad and save configuration (Wifi setting, In App Purchasing, Naming, etc.)
  - Push down settings to all Ipads
  - Purchase and push down apps (½ off apps 20+more)
  - **Website**

Apple Configurator

Sync/Charge Cart

Spectrum Furniture (REMC participant)

http://www.spectrumfurniture.com/products/productDetail.cfm?pc=2&psc=91&prod=1457
http://www.youtube.com/watch?v=GWqwL-hjCkE&feature=youtu.be (video)

InTouch 20 Tablet Cart with Sync/Charge™ System -$2500 delivered.

Regular School Year MP

Our regular school year Migrant Program uses the Ipads in their instruction as well.

Ipads are used throughout the year by Migrant students with continued success.

Groups of four

How are you using technology to enhance student learning in your program?

How could you see using Ipads/Tablets?

Educational Websites

ACCESS = OPPORTUNITY

Opportunity for
- Learning
- Engagement
- Enrichment
- A full life